

PROCEEDINGS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.

December 14, 1852.—Dr. Gray, F.R.S., V.P., in the Chair.

ON THE PAINTED PIG OF THE CAMAROONS (*POTAMOCHÆRUS
PENICILLATUS*).

BY JOHN EDWARD GRAY, PH.D., F.R.S., V.P.Z.S. ETC.

This Pig was imported into Liverpool, where it remained some time, being regarded as the common Cape “Bosch Vark.” It was at length purchased by the Society, and is one of the most interesting additions made during the course of the present year to the very numerous series of animals now in the Gardens.

It differs in colour and proportions from the Cape “Bosch Vark,” but like it belongs to a very distinct group of Pigs from those found in Europe and Asia, and from the *Babyrussa* of the Malay Islands.

In the ‘Annals and Magazine of Natural History’ for October 1852, I gave a short account of this animal, and formed a genus for this group of African Pigs, to which I gave the name of *Choiropotamus*, describing the present species by the name of *C. pictus*, and it is figured under this name in the ‘Illustrated London News.’ Since these notices were published, I have found that it will be necessary to change both these names; the first because there is a genus of fossil animals described by Cuvier, which has been called *Cheiropotamus*. I therefore propose to reverse the words and call the genus *Potamochoerus*. The specific name is changed because the pig appears to have been described in 1848 from a specimen in the Museum of the town of Basle in Switzerland, in a work which has not yet reached this country, but a short abstract of the description has been copied into a French Journal.

The group of *Pigs* (*Sus*, *Cuvier*) may be divided into three very well-marked genera, distinguished by their external appearance, peculiarities in the skull, and by their geographical distribution, thus :—

Genus 1. *Sus*.

The ears rounded; tail slender; face conical, simple, or with a small wart on each cheek; the hinder upper part of the intermaxillary bones simple; the upper canines coming out on the lower edge of the maxilla and then recurved. Found wild in Europe and Asia, but domesticated in all parts of the world.

This genus contains several species, and almost the whole of them are found wild in the forest, whilst some of their descendants are generally to be met with in a domesticated or semi-domesticated state. This is the case with the Pigs found in the islands of the Indian Archipelago, which have been regarded as distinct species.

I may state that it is exceedingly difficult to distinguish the species of this genus, especially from the examination and comparison of the skull. I have examined with care ten skulls of what I believe to be the European Wild Boar and its offspring, grown in this country, at the Cape of Good Hope, and at the Gambia, and twelve skulls of the

Wild Boar from Continental India, and though they offer considerable variation, I cannot discover any constant easily-described character by which I can distinguish the European and the Indian kinds from each other, and this is the case with many other genera allied to the Pigs. We have in the Zoological Gardens the Wild Boar of Europe and a Wild Boar and Sow from Madras living side by side, and they have all the appearance of being most distinct species, which may be thus characterized :—

SUS APER.

Covered with crowded bristles, forming a crest on the withers ; black speckled, with grey tips to the bristles ; the legs hairy, black ; hoofs black.

Hab. Europe, Germany.

SUS INDICUS.

Covered with scattered, more rigid bristles, more abundant on the front part of the body ; pale grey, blackish on the outside of the shoulders ; legs slender, covered with a few bristles ; hoofs white.

Female (perhaps half-bred).—Body rather more hairy ; the outer front hoof of each hind foot black.

Sus Indicus, Gray, Cat. Mam. B.M.

Hab. India, Madras.

The skulls of the Wild Hogs from Madras and the Himalaya in the British Museum all appear larger, and have the hinder part of the forehead not so high and dilated as in the common Domestic Boar, much resembling the skull of the sows of that species. They can scarcely be all from female animals of the Indian kind.

I may observe that the nasal bones of this genus appear to elongate and occupy a greater part of the length of the face in the adult than in the young animal. In the young they seldom extend beyond a line even with the large foramen on the side of the face, but in the adult they are generally produced much behind it.

Genus 2. BABYRUSSA.

The ears rounded ; tail and limbs slender ; face conical, simple ; the hinder upper part of the intermaxillary bone smooth ; the upper canines (in both sexes) coming out from the side of the jaw and bent upwards from the base, and then arched backwards, sometimes even spirally recurved. *Hab.* The Indian islands.

1. BABYRUSSA ALFURUS.

Genus 3. POTAMOCHÆRUS.

The ears elongate, suddenly tapering and ending in a pencil of hairs ; face elongate, with a long protuberance on each side halfway between the nose and the eye ; the tail thick, high up the rump ; the upper part of the intermaxillary bone swollen, rugose ; the upper canines arising from a prominent bony case on the side of the jaws, coming out on the lower edge of the jaw and then recurved. *Hab.* Africa.

Koiropotamus, Gray, Cat. Mam. B.M. xxvii.

Ann. & Mag. N. Hist. Ser. 2. Vol. xv.

Choiropotamus, Gray, Ann. & Mag. N. H. 1852 (not *Cheiropotamus*, Cuvier, Oss. Foss.).

1. POTAMOCHÆRUS AFRICANUS.

Black; cheeks whitish, with a large central black spot.

African Wild Boar, Daniel, African Scenery, t. 22 ♂.

Sus africanus, Schreb. Säugth. t. 327, head.

Sus larvatus, F. Cuvier, Mém. Mus. viii. 447. t. 22. Blainv. Osteog. xxii. t. 5 f. t. 8 f.

Choiropotamus africanus, Gray, List Mam. B.M. 185.

Choiropotamus larvatus, Gray, Ann. & Mag. N. H. 1852.

Sus koiropotamus, Des Moul. Dict. Class. H. N. Atlas, t. 7 ♀.

All the specimens which have come under my notice are coloured as above described. But Dr. Andrew Smith (Zool. South Africa) observes, scarcely any two specimens are of the same colour; some are brownish black, variegated with white, and others almost entirely uniform light reddish brown.

2. POTAMOCHÆRUS PENICILLATUS.

Bright red bay; face, forehead, ears and a large spot on the front of the legs black; edge of the ears, whiskers, streaks over and under the eye, and a continued sub-crested streak along the middle of the back white; hair of the back short (black at the base), of the sides and whiskers elongate; tail very long, thick.

Sus penicillatus, Schinz, Monog. Säugth. 1848, fide Rev. Zool. 1848, 152.*

Choiropotamus pictus, Gray, Ann. & Mag. N. H. 1852.

Painted Pig of the Camaroons, Illustrated News, 1852.

Hab. W. Africa. River Camaroon. "Gold Coast, Mus. Basle," fide *Schinz*.

A fine male of this species has been living in the Gardens of the Zoological Society since September 1852.

ON THE HORNS OF THE SANGA, OR GALLA OXEN, OF GIBBA.

By J. E. GRAY, PH.D., F.R.S., V.P.Z.S.

Dr. Gray brought before the Society a pair of horns of these oxen, which the British Museum had lately purchased at the sale of the property of the late Earl of Mountnorris, at Arley Hall.

They are the pair mentioned by Mr. Salt in his 'Voyage to Abyssinia,' at p. 258, 4to edit. 1844, where he observes:

"There (Gibba) for the first time I was gratified by the sight of the *Galla Oxen*, or *Sanga*, celebrated throughout Abyssinia for the remarkable size of their horns. Three of these animals were grazing among the other cattle in perfect health, which circumstance, together with the testimony of the natives, 'that the size of the horn is in no instance occasioned by disease,' completely refutes the fanciful theory given by Mr. Bruce respecting this creature.

* I have seen the specimen in the Basle Museum, and it is certainly the species here described, only differing a little in the depth of the colouring.—J. E. G.

"The Ras having subsequently made me a present of three of these animals alive, I found them not only in excellent health, but so exceedingly wild, that I was obliged to have them shot.

"The horns of one of these are now deposited in the Museum of the College of Surgeons, and a *still larger pair are placed in the Collection of Lord Valentia, at Arley Hall*. The length of the largest horn of this description which I met with was nearly four feet, and its circumference at the base twenty-five inches.

"I shall only further observe that its colour appears to vary as much as in the other species of its genus; and that the peculiarity in the size of the horns was not confined to the male, the female being very amply provided with this ornamental appendage on her forehead, pp. 258, 259. See also Bruce's 'Voyage,' App. 1. Letters 9 & 10."

Dr. Gray observes that the horns are shorter, and more curved and lyrated than the figure engraved in t. 19, at p. 259 of Salt's 'Travels in Abyssinia,' which also appears to make them bear a larger proportion to the size of the animal than the specimen suggests; and they are quite as remarkable for their erect position on the forehead as for their size.

They and the core which supports them are very light, compared to their size, and not half the weight of the smaller wide-spreading horns of the long-horned Cape Waggon Oxen. The horns are thin, pale coloured, and of a loose texture, being worn and fibrous on the surface in several parts.

In the lightness and very cellular structure of the core, the thinness of the horny coat, and the large size, they agree with the pair of horns in the British Museum brought from Central Africa by Captain Clapperton, R.N., and Major Denham, R.E., which are figured in Griffiths' 'Animal Kingdom,' vol. iv. t. 201. f. 4; but these horns are shorter and much larger in diameter, and are spread out on the sides of the head like those of the Common Domestic Oxen, and they are very much lighter for their size than those of the *Galla Oxen* or *Sanga*.

Sir Richard Vivian has kindly informed me that he has seen a breed of cattle in Italy, with the horns rather erect, somewhat resembling those of the *Sanga* in position.

DESCRIPTION OF A NEW GENUS AND SOME NEW SPECIES OF
TORTOISES. BY JOHN EDWARD GRAY, PH.D., F.R.S.,
V.P.Z.S. ETC.

Fam. 1. EMYDIDÆ.

1. MANOURIA, n. g.

Animal unknown. Shell rather depressed; caudal plates double, separate; sternum solid, broad, produced and slightly nicked in front, notched behind, with only five pairs of broad shields; pectoral shields short, subtriangular, only occupying the angle between the outer edge of the humeral and abdominal shields; axillary shields small, inguinal larger; the areola of the discal shields central.

The depressed form and divided caudal plates induce me to place this genus in *Emydidae*. In external appearance it much resembles the North American Land Tortoise, *Testudo gopher*, but it is at once known from that species, and all the other genera of *Testudinidae*, *Emydidae* and *Chelydidae*, by the peculiar form of the pectoral shields, which at first sight might be mistaken for a very large-sized inguinal shield, if that plate were not also present.

In this respect it somewhat resembles the genus *Kinosternon*, but there the shield is only narrower at the inner end, and rather nearer to the centre of the sternum.

Various genera of *Testudinidae* have the pectoral plate much smaller than the others; and perhaps the small size of the pectoral shield in this genus shows its affinity among the *Emydidae* to that family.

If it were not for the irregular division of the caudal plates, and the form of the pectoral plate, it might be regarded as nearly allied to the very variable *Testudo Indica*.

1. MANOURIA FUSCA.

Pale brown, nearly uniform; discal shields concentrically grooved, with a central areola; the anterior and posterior lateral margins acute, slightly sinuated and rather bent up; the humeral and abdominal plates longer than broad, the abdominal very large; the gular produced, narrowed in front.

Hab. Singapore.

Unfortunately we only possess a single very imperfect specimen of his very interesting Tortoise, wanting several of the discal shields.

2. EMYS LATICEPS.

Shell pale olive, yellowish beneath; sides rounded, hinder lateral margin rather expanded and recurved, hinder end rather compressed above; shields thin, transparent, inferior plates with a narrow black edge; head large, short, broad, covered with a smooth skin; neck with very narrow yellow lines.

Hab. West Africa, River Gambia (*M. Castang*).

This is the *only* *Emys* yet found in West Africa, and is easily known by its short broad head.

Fam. 2. CHELYDIDÆ.

3. HYDROMEDUSA SUBDEPRESSA.

Shell oblong, depressed, dark brown, entire, rounded in front, rather angular behind; nuchal plate short, broader than the post-vertebral; post-vertebral square, as long as broad, with the front angles produced; sternum pale brown; gular plates short, unequal; head grey; lips and beneath white; neck with small conical warts.

Hab. Brazil.

There is in the British Museum collection a single adult specimen of this species, which has some of the plates of the back and sternum divided into a number of small roundish shields.

The specimen was sent from Brazil to Mr. Brandt of Hamburg,

who transmitted it to the Museum. It may be only a variety of *H. flavilabris*, but the nuchal and post-vertebral shields are very differently shaped.

4. HYDRASPIS SPIXII, Gray, Cat. Rept. B. M. 30.

Shell oblong, depressed; middle of the back flat; marginal shields very broad in front, narrow and bent up on the sides, broader and arched over the hind legs; the post-vertebral shield large, as wide as long; third and fourth narrow, longer than broad; the fourth and fifth with an acute keel on the hinder edge; sternum rather broad; head very large, crown and temples covered with small shields; ears prominent; neck smooth; lower part of the outer edge of the hind leg with four larger plates, the last compressed and largest.

Hab. Brazils, Para.

There is an adult stuffed specimen, and a skeleton of nearly the same size, of this species in the British Museum collection.

This species is very like *H. gibba*, but the back is more depressed, the margin much wider, the head nearly double the size, compared with the size of the body, and the scales on the head are small, more numerous and more equal in size, and those on the edge of the hinder legs are larger and more equal in size.

Fam. 3. TRIONYCIDÆ.

CYCLANORBIS PETERSII.

Shell broad, rounded before and behind; sternal callosities five.

Hab. West Africa, River Gambia.

This genus was proposed by Dr. Peters, on his return from Mozambique, for a soft Tortoise which he discovered in that country, which has flaps to the sides of the sternum, covering the legs like the *Amydæ* of Asia, but differs from these in having no bones on the margin of the dorsal disk, which is soft and flexible as in the *Trionyces* with exposed legs.

This species from the Gambia appears to be distinct from the one noticed by Dr. Peters in Mozambique; I have therefore named it after that excellent naturalist, who has made such sacrifices for the extension of our knowledge of natural history, and of zoology in particular.

February 8, 1853.—John Gould, Esq., F.R.S., in the Chair.

DESCRIPTIONS OF SOME NEW SPECIES OF ENTOZOA FROM
THE COLLECTION OF THE BRITISH MUSEUM.

BY W. BAIRD, M.D., F.L.S.

Class ENTOZOA.

Order NEMATOIDEA.

Family ASCARIDÆ.

Genus ASCARIS.

1. ASCARIS SIMILIS.

Ascaris similis, Baird, Cat. Entoz. Brit. Mus. 19. t. 1. f. 1.

Head small; mouth with three small valves slightly projecting be-

yond the margin. Anterior portion of body much narrower than posterior. Tail rounded, thick, obtuse. Females spirally twisted in many convolutions; of a dark olive colour. Males straight to within a short distance of tail, which is inflected; of a whitish colour. Skin of body minutely and finely striated across. Wing extending along the whole length and becoming thicker and stronger at inferior extremity. Length of male 2 inches, breadth 1 line. Length of female $1\frac{1}{2}$ inch, breadth $\frac{3}{4}$ of a line.

This species resembles the *A. osculata* from the *Phoca vitulina*, but differs in having the wing stronger and thicker at inferior extremity, in having the head and mouth smaller, and in the skin of the body being finely striated across.

Hab. Stomach of a Seal from Antarctic Seas; collected during the late Antarctic expedition. Brit. Mus.

2. ASCARIS LÆVISSIMA.

Ascaris lævissima, Baird, Cat. Entoz. Brit. Mus. 25.

Head small, in form of a narrow circular rim; valves of mouth large and distinct, of a triangular shape, divided at the tip into two lobes, each of which again is broadly emarginate. Between each of the valves, at their base, is a small smooth tubercle or prominence. Body round, very smooth, of a rather dark olive colour, marked with numerous very fine smooth longitudinal lines, and occasional very distinct red circular lines at irregular distances; tapering at both extremities, narrower at posterior extremity. On each side of the body is a smooth narrow band of a lighter colour, which runs the whole length, and has the appearance at first sight of a wing, but is not raised. Length 10 inches; greatest breadth 4 lines.

Hab. —? India; from the Collection of General Hardwicke. Brit. Mus.

3. ASCARIS BIFARIA.

Ascaris bifaria, Baird, Cat. Entoz. Brit. Mus. 26. t. 1. f. 2.

Head rather small; valves rounded, wrinkled transversely and slightly bifid at the upper margin. Body round, much narrower at anterior than posterior extremity. Anterior third of body surrounded with numerous very close-set, circular, raised striæ. Remainder of body smooth, with the striæ not raised and about one-fourth of a line apart from each other, till within about half an inch of inferior extremity, which is large and obtuse, when it again becomes surrounded with numerous raised circular lines or striæ which give it a wrinkled appearance. The tail terminates in a papilla, and the anus is lunar-shaped and situate at the base of the papilla about half a line from the extremity. The whole surface, in addition to the raised lines or striæ, is covered with exceedingly fine and immensely numerous striæ. A line runs down each side of the body throughout its whole length. Length 9 inches, breadth 5 lines.

Hab. —? From Korea. Collected by Capt. Sir E. Belcher, C.B. Brit. Mus.

Family GORDIIDÆ.

Genus MERMIS.

1. MERMIS SPIRALIS.

Mermis spiralis, Baird, Cat. Entoz. Brit. Mus. 35. t. 1. f. 3.

About 7 inches in length and $\frac{1}{2}$ mill. in breadth; of a red colour, rigid and twisted into many spiral convolutions. Anterior and posterior extremities obtuse. Body of equal size throughout and quite smooth.

Hab. Abdomen of a species of Grasshopper from Rio Janeiro. Brit. Mus.

2. MERMIS RIGIDUS.

Mermis rigidus, Baird, Cat. Entoz. Brit. Mus. 35.

Body of a light amber colour, smooth and very shining, narrow at upper extremity, very soon becoming thicker and terminating at inferior extremity in an obtusely conical point. The animal is very rigid and stiff throughout its whole length. Length $10\frac{1}{4}$ inches, breadth about $\frac{1}{2}$ a line.

Hab. —? Coll. Brit. Mus.

Genus GORDIUS.

A. Body smooth.

1. GORDIUS PLATYURA.

Gordius platyura, Baird, Cat. Entoz. Brit. Mus. 36. t. 1. f. 4.

Body of a uniform dull white colour, quite smooth, with a depressed line on one side throughout its whole length, obscurely ringed at unequal distances, narrower at anterior extremity and terminating in a broad flattish tail, which is slightly bifid. Length of animal 32 inches, breadth of middle portion of body about $\frac{1}{2}$ a line; tail 1 line broad.

Hab. Jamaica? From the Collection of Sir Hans Sloane. Brit. Mus.

B. Epidermis granulated.

2. GORDIUS VERRUCOSUS.

Gordius verrucosus, Baird, Cat. Entoz. Brit. Mus. 36. t. 1. f. 5.

Body black, covered all over with innumerable small, raised warty papillæ, round and very stiff like a piece of wire. An impressed line runs on each side through the whole length. Head small. Anterior extremity narrower than posterior. Length 6 inches, breadth about $\frac{1}{2}$ a line.

Hab. S. Africa? (Male.) From the Collection of Dr. A. Smith. Brit. Mus.

3. GORDIUS VIOLACEUS.

Gordius violaceus, Baird, Cat. Entoz. Brit. Mus. 36.

Body of a dark brown colour; apparently smooth, but under a high magnifying power completely covered with small flattish-looking papillæ, and ringed transversely with very slightly raised circular

lines, about one-half or one-third of a millimetre apart from each other; tapering slightly at upper extremity, and gradually becoming thicker at inferior. Along the whole length of the body, on each side, runs a pretty deep sulcus or groove, interrupting the circular lines. Length 11 inches 3 lines, breadth about $\frac{1}{2}$ a line.

Hab. Abdomen of *Carabus violaceus* from Berwickshire. Brit. Mus.

4. GORDIUS PUSTULOSUS.

Gordius pustulosus, Baird, Cat. Entoz. Brit. Mus. 37.

Body of a light brown colour, not ringed across, completely covered with minute flattish-looking papillæ, and numerous larger raised dots or small warty protuberances intermixed, tapering considerably at superior extremity, and becoming gradually thicker towards the tail, which is obtuse and marked across with a deep indentation. Along the whole length of the body runs a deep groove on one side only. Length $8\frac{1}{4}$ inches, breadth $\frac{1}{2}$ mill.

Hab. Abdomen of *Blaps obtusa*, from the neighbourhood of London. Brit. Mus.

When brought to the Museum it had just emerged from the *Blaps*, and was then 4 inches long and about the diameter of a horse-hair. It was placed in water and kept alive for a day or two, at the end of which time it had grown to double its original size, in both length and diameter.

5. GORDIUS SPHÆRURA.

Gordius sphærura, Baird, Cat. Entoz. Brit. Mus. 112.

Male: nearly black, quite smooth, flattened throughout its whole length, and nearly of equal size throughout. Length 16 inches, breadth $\frac{1}{2}$ a line.

Female: of a dark brown, smooth, but rather deeply notched across, the notched lines occurring now on one side, now on another, but never going quite round the body, and at times presenting an appearance as if it were divided into numerous segments. The body is of nearly equal size throughout its length till it reaches the tail, which is somewhat swollen and club-shaped. Length 14 inches, breadth about $\frac{1}{2}$ line.

Hab. Khasyan Hills, India. Collected by Dr. Joseph Hooker. Brit. Mus.

6. GORDIUS FASCIATUS.

Body smooth, skin prettily shagreened with very fine lines crossing each other in opposite directions, of a light colour banded with broad patches of dark brown. Anterior extremity smaller than posterior, and roughened with raised circular ridges, which extend for about three lines, and as well as posterior extremity of a very dark colour, almost black. Length $11\frac{1}{2}$ inches, breadth about 1 millimetre.

Only one specimen ♀.

Hab. N. America. Brit. Mus.

Order ACANTHOTHECA.

Genus PENTASTOMA.

1. PENTASTOMA MEGACEPHALUM.

Pentastoma megacephalum, Baird, Cat. Entoz. Brit. Mus. 39. t. 2. f. 1.

Female: body yellowish white, somewhat depressed and terminating anteriorly in a large, thick, club-shaped head. The dorsal surface is depressed at the edges, rounded and very prominent in the centre and transversely ridged. The ventral surface is more flattened, ridged and wrinkled; with the mouth in a hollow depression, surrounded by four strong, brown, simple hooks. The part of the body immediately beneath the head is very strongly ridged transversely, each of the first six ridges being wavyly wrinkled. The length of the whole body is about 11 lines. The head is 5 lines broad, and the middle portion of the body about $3\frac{1}{2}$ lines, diminishing in size towards the tail. The oviduct is very long, the portion outside the body being 2 inches in length.

Male? Longer than female, about 14 lines long; covered with a smooth skin which is slightly ridged across, and has at its inferior extremity a small sharp papilla, about $\frac{3}{4}$ of a line in length and brown at the tip (the penis?). The inferior extremity is rounder than in the female, but otherwise the form of the animal is nearly the same.

Hab. Imbedded in the flesh of the head of a Soonderbund Crocodile, *Crocodylus palustris*, from India. Brit. Mus.

2. PENTASTOMA ANNULATUM.

Pentastoma annulatum, Baird, Cat. Entoz. Brit. Mus. 113.

Body white, elongate-cylindrical, nearly of the same size at each extremity, strongly ringed; rings raised, about twenty-eight in number, one line distant from each other. A dark blue line runs through the whole length of body on one side. Circumference of body 5 lines, length of body $2\frac{1}{4}$ inches.

Hab. In the lungs of the Egyptian Cobra, *Naja Haje*. Collection of Dr. Crisp.

Order TREMATODA.

Genus DISTOMA.

1. DISTOMA MICROCEPHALUM.

Distoma microcephalum, Baird, Cat. Entoz. Brit. Mus. 58. t. 2. f. 2.

Body of an elongated oval or lanceolate shape, of a slightly yellowish white colour, plicated transversely, the folds being very fine; head narrow, obtuse, separated from the body by a contraction; posterior extremity obtusely lanceolate; dorsal surface slightly convex; ventral surface nearly flat or somewhat concave; anterior sucker small, terminal; ventral sucker larger, round, prominent, surrounded by an elevated thickened edge, and situated within 3 millimetres of the former; organs of generation placed half-way between

the two suckers in the form of an elevated papilla. Length from 6 to 8 lines, greatest breadth $1\frac{1}{2}$ line.

Hab. Stomach of the Spinous Shark, *Acanthias vulgaris*, from Falmouth Harbour. Brit. Mus.

Order CESTOIDEA.

Genus TETRARHYNCHUS.

1. TETRARHYNCHUS RUGOSUS.

Tetrarhynchus rugosus, Baird, Cat. Entoz. Brit. Mus. 69, t. 2. f. 3.

Body flattish, thick, exceedingly rugose, almost tuberculated, the rugæ extending right across the body, which is of a white colour. Head conical, thicker than the body and about one-fifth the length of it. Bothria inversely heart-shaped (the broader part being at the lower margin), deep, divided at the bottom by a narrow septum; edges thick and raised. Proboscides round and club-shaped at their tips. Inferior extremity of body, as it were, truncate. Total length (in spirits) $10\frac{1}{2}$ lines, breadth of head $2\frac{1}{2}$ lines, of lower part of body 3 lines, bothria 2 lines in length.

In one specimen the head is much broader than the inferior extremity of the body, being about 3 lines broad, while the inferior extremity is only 2 lines and is terminated by a heart-shaped appendage of about $1\frac{1}{2}$ line long and of a light rose colour (the male?).

Hab. Taken alive from the lower intestine of a salmon. Brit. Mus.

2. TETRARHYNCHUS STRANGULATUS.

Tetrarhynchus strangulatus, Baird, Cat. Entoz. Brit. Mus. 69, tab. 2. f. 4.

Body flat, of a light yellowish colour, thickish, elegantly and minutely striated across and marked with slight longitudinal sulci, which run the whole length of the body. The head is narrower than the portion of the body which immediately succeeds it, is about 4 lines in length, longitudinally sulcated on the sides, smooth on the two faces, and distinctly separated from the body by a contraction which gives the appearance, as it were, of a shoulder to the commencement of the body. The bothria are shallow, oval-shaped and divided at the bottom by a septum, which, at about the half of its length, divides into two portions; the edges are raised and thickened. Proboscides short and stout; the inferior part of the body terminates in a blunt conical papilla. Length from $1\frac{1}{2}$ to $2\frac{3}{4}$ inches; breadth from 2 to $3\frac{1}{2}$ lines.

Hab. —? From Chusan. Brit. Mus.

Genus TÆNIA.

1. TÆNIA BREMSERI.

Tænia Bremseri, Baird, Cat. Entoz. Brit. Mus. 73, t. 2. f. 5.

Head of a moderate size, surrounded with a double crown composed of upwards of twenty small hooks; neck very short. Articulations of body numerous, at first very small and nearly oblong, gradually

enlarging in size as they descend, and becoming campanulate. They are marked with numerous fine transverse lines, which again are crossed by several strong longitudinal lines or grooves. The inferior angles of each joint are slightly prolonged into a point, and the margin is somewhat thickened (especially in the lower joints of body) and undulately waved or slightly scalloped. Orifices of ovaries irregularly alternate. Length of specimens about 7 inches; greatest breadth about $2\frac{1}{2}$ lines.

Hab. In the Crocodile of the Soonderbund, *Crocodylus palustris*, from Bengal. Brit. Mus.

2. TÆNIA CALVA.

Tænia calva, Baird, Cat. Entoz. Brit. Mus. 83.

Head small, rounded and smooth, white and shining. Mouth unarmed. Neck constricted. Articulations of body at first very small, gradually enlarging in breadth as they descend till they reach about the middle of the body, where they are still narrow, linear-shaped and about seven times broader than long. After this they begin to increase in length and diminish in breadth, becoming at first nearly square, and at last, near the extremity, nearly twice as long as broad. All the articulations are strongly striated across, and the upper and lower margins, where they join with each other, are considerably thickened. Length $5\frac{1}{2}$ inches, greatest breadth $3\frac{1}{2}$ lines, breadth of lower extremity 1 millimetre, of head $\frac{1}{6}$ th of a mill.

Hab. Intestines of the common Grouse, *Lagopus Scoticus*. Brit. Mus.

3. TÆNIA GOEZII.

Tænia Goezii, Baird, Cat. Entoz. Brit. Mus. 78.

Articulations of body very short and numerous. Inferior margins straight. Genital orifices opposite, situated on or near the lower edge of each joint; the lemniscus projected out in form of an elevated papilla which curves downwards. Unfortunately the head is wanting. Greatest breadth of body 6 lines, length of articulations about $\frac{1}{2}$ a line.

This species differs from *T. expansa* and *denticulata* (to which species it approaches) in having the posterior or inferior border or edge of each articulation smooth and rounded, instead of being crenulated or undulated; and in having the genital orifices situated on the lower edge of the articulation, instead of in the middle.

Hab. —? Brit. Mus.

4. TÆNIA ZEDERI.

Tænia Zederi, Baird, Cat. Entoz. Brit. Mus. 85.

Articulations of body of moderate size, campanulate-shaped, lower margins of each more or less crenated and thickened; at first they are short, they then become longer and narrower as they descend. The greatest breadth is about 2 lines. The whole body is of a yellowish-white colour. Unfortunately the specimens are imperfect at the upper extremity and want the head. The orifices of the genital organs are irregularly alternate.

Hab. Stomach of a Penguin from the Antarctic Seas. Collected during the late Antarctic expedition. Brit. Mus.

5. TÆNIA FALCIFORMIS.

Tænia falciformis, Baird, Cat. Entoz. Brit. Mus. 116.

Head conical; proboscis unarmed?; suckers large, oval-shaped; no neck; body at anterior extremity very narrow, almost linear, gradually enlarging as it descends; articulations very numerous, extremely narrow. The body is flat and is curved like a sickle. Genital orifices —? Length about $2\frac{1}{4}$ inches, breadth at broadest part 1 line.

Hab. —? Collected during the Euphrates expedition. Brit. Mus.

Genus BOTHRIOCEPHALUS.

1. BOTHRIOCEPHALUS ANTARCTICUS.

Bothriocephalus antarcticus, Baird, Cat. Entoz. Brit. Mus. 90.

Head conical, elongated, smooth, with two lateral opposite fossettes. At the lower margin of each fossette there are two small rounded projecting lobes. Body rounded; from the neck some way downwards it is quite round or cylindrical, and the articulations are very numerous and very small, appearing like mere ridges across. Lower down, the body becomes flatter and the joints larger and more developed; lower margin thin. An impressed line runs along the centre of the body through its whole length. Length about 9 inches, greatest breadth of body about 3 lines.

Hab. In the stomach and intestines of a Seal caught about and within the Antarctic Circle. Collected during the late Antarctic Expedition. Brit. Mus.

MISCELLANEOUS.

Note on the Reproduction of Ligula. By M. BRULLÉ.

M. BRULLÉ has made a communication to the Academy of Sciences of Paris, stating that he has found a new mode of reproduction to prevail in a species of *Ligula*, which infested the Bleak (*Cyprinus alburnus*) in the Canal of Burgundy, in great numbers during the past summer. The *Ligulæ* have generally been regarded as Cestoid worms which passed a first, asexual stage of development in the interior of the bodies of freshwater fishes, and only acquired reproductive organs when they reached the intestines of birds. According to M. Brullé's statement, it appears that the *Ligulæ*, contrary to the generally received opinion, are capable of producing living, Cercariform young whilst still parasitic upon fishes; he saw one of these worms which he had just extracted from the body of a Bleak, produce two or three young ones, which, he adds, "resembled the parent, except that the anterior portion of their body was broader and thicker than the opposite extremity. They may be compared,